## Does zinc improve mental and physical performance?

You're familiar with dietary supplements and you've probably heard about functional foods... brain foods, performance foods, health foods. One nutrient contained in many supplements and foods is the mineral zinc. Zinc is known to be important for growth in adolescents. But does increasing zinc intake improve mental and physical performance, and immune function, as suggested by some health professionals?

Help us find out by participating in this important research study.

This study is being conducted by experienced nutrition researchers at the Department of Agriculture. It has been approved by the Institutional Review Board of the University of North Dakota. The amounts of zinc used in this study are SAFE and have been used in other studies of adults and younger children without ill effects.

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The Grand Forks Human Nutrition Research Center (GFHNRC), a part of the United States Department of Agriculture, is studying the possible benefits to adolescents of fortifying foods with zinc, an essential mineral. This research will determine in 7th graders enrolled in Grand Forks Public Schools whether zinc improves mental and motor skills, social and emotional adjustment, school performance, body composition, physical fitness and immune function.

Each school day for 12 weeks, students will drink 4 ounces of juice containing either zinc or a placebo (inactive ingredient). At the beginning and end of the study students will complete several questionnaires, perform tasks on a microcomputer, undergo a physical fitness test, and have a small amount of blood drawn. Testing will take place at your child's school on our Mobile Nutrition Research Laboratory (shown above) and in the school gymnasium.

Participation will involve about 3 hours of student time at the beginning and end of the study to complete questionnaires and tests, and about 1-2 hours of parent time to fill out several questionnaires. Teachers will also complete a questionnaire.

You will receive information about your child's current health (for example, glucose, cholesterol, iron status) and immune function, school performance and social adjustment, and body composition and physical fitness (compared to national norms). You will also receive a summary of study findings. By taking part in this research, your child will learn more about nutrition, behavior, physiology and science, as they undergo the testing, and as teachers and researchers discuss areas related to the study. Most importantly, you and your child will be contributing to research needed to determine the amount of zinc intake most beneficial to children your child's age... this information will be used to establish dietary guidelines for young adolescents.

Students will receive study details and tour the mobile laboratory at their school. Visit our web site at http://www.gfhurc.ars.usda.gov/recruitment/s4012002.htm for more information about this and other studies at our research center.